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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,466	03/03/2005	Tadashi Shibata	Q86580	8164

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EXAMINER	
MAKI, STEVEN D	

ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
01/06/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/526,466	SHIBATA ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,7-13 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,3-5,7-9,11* is/are allowed.

6)☒ Claim(s) *10,12,13 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2) Claims 10, 12, 13 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 ambiguously refers to "filler" and "fillers". In claim 10, it is suggested to change "the total amount of fillers" to --the total amount of filler--.

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4) **Claims 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 561 (EP 1179561) in view of at least one of Japan 748 (JP 09-208748) and Hayashi et al (US 3,927,144) and optionally further in view of Europe 613 (738613).**

Europe 561 discloses a pneumatic tire having a composition comprising 100 parts rubber such as natural rubber or styrene-butadiene rubber (SBR), reinforcing filler such as **silica** and carbon black (e.g. HAF, ISAF and SAF), and 0.1-10 parts **ester of (i) aliphatic polyvalent carboxylic acid or anhydride thereof (e.g. maleic anhydride) and (iii) (poly)oxyalkylene derivative**. The ester is represented by the formula described at paragraphs 14-16. The slippage between rubber molecules is increased by using the ester as an additive in the rubber composition without degrading

the properties of the cured rubber composition. The silica has a N2SA of 50-250 m2/g. Other additives such as processing oil may be included in the composition. At paragraph 55, Europe 561 describes using 100 parts natural rubber and 55 parts carbon black HAF. At paragraph 59, Europe 59 describes using 100 parts SBR, 30 parts carbon black ISAF and 30 parts silica. Europe 561 specifically discloses using the composition for a tire tread (paragraph 43). Parts (a), (b) and (c) of claim 1 do not appear to distinguish over Europe 561. In claim 1, "10 mass % or more silica" reads on 100% silica. In any event, it would have been obvious to one of ordinary skill in the art to provide Europe 561's tire such that the tread rubber comprises 100 parts rubber component comprising conjugated diene rubber, filler comprising silica having a N2SA of 180-270 m2/g wherein the amount of silica is at least 10% by weight filler and 0.1-10 mass parts of a partial ester compound of maleic anhydride and a (poly)oxypropylene derivative since (1) Europe 561 teaches a pneumatic tire having a composition comprising 100 parts rubber such as natural rubber or styrene-butadiene rubber (SBR), 10-85 parts reinforcing filler such as silica having a N2SA of 50-250 m2/g or carbon black (e.g. HAF, ISAF and SAF), and 0.1-10 parts ester of (i) aliphatic polyvalent carboxylic acid or anhydride thereof such as the preferred maleic anhydride and (iii) (poly)oxyalkylene derivative (paragraphs 14-16) so that the slippage between rubber molecules is increased by using the ester as an additive in the rubber composition without degrading the properties of the cured rubber composition, (2) Europe 561 teaches using the rubber composition for the tread of the tire and optionally (3) Europe 613 suggest using a rubber composition comprising 40 to 80 part filler of silica and

carbon black comprised of 5-60 parts silica in a cap tread of truck tire so that heat generation is reduced. Europe 561 does not recite using hydrazide compound in the tread rubber composition. Europe 561 does not recite using petroleum base resin in the tread wherein the petroleum resin has a softening point of 30-150 degrees C.

As to claim 10, it would have been obvious to one of ordinary skill in the art to include the claimed petroleum base resin in Europe 561's rubber composition for the tire tread of a tire in view of (1) Europe 561's teaching that other additives may be included in the rubber composition and (2) (a) Japan 748's teaching to improve grip on a wet road of a tire by using 3-50 parts petroleum resin having a softening point of 60-150 degrees C in the rubber composition of the tread (abstract, machine translation) and/or (b) Hayashi et al's suggestion to use a petroleum resin having a softening point of 80-150 degrees C in a rubber composition for a tread of a large truck tire to improve cut resistance. Both Europe 561 and Japan 748 teach incorporating "additives" in the tire tread. Japan 748 motivates one of ordinary skill in the art to use the claimed additive (petroleum resin) in Europe 561's tire tread to obtain the expected and predicted benefit of improving grip of the tire on a wet road. Both Europe 561 and Hayashi teach incorporating "additives" in the tire tread. Hayashi et al motivates one of ordinary skill in the art to use the claimed additive (petroleum resin) in Europe 561's tire tread to obtain the expected and predicted benefit of improving cut resistance of the tire tread. No unexpected results over Europe 561 have been shown.

As to claim 12, Europe 561 teaches using SBR.

As to claim 13, Europe 561 teaches using 10-85 parts filler and the optional Europe 613 teaches using 40-80 parts filler.

5) **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 561 (EP 1179561) in view of at least one of Japan 748 (JP 09-208748) and Hayashi et al (US 3,927,144) and optionally further in view of Europe 613 (738613) as applied above and further in view of Sohnen et al (US 2002/0045697).**

As to claim 15, it would have been obvious to one of ordinary skill in the art to include the claimed softening agent in Europe 561's rubber composition since (1) Europe 561 teaches that other additives such as processing oil (softening agent) may be included in the rubber composition for the tire tread and (2) Sohen et al suggests using 5-60 parts mineral oil softener with PAC < 3% determined with DMSO according to IP 346 method in a composition for a tire tread (entire tread or cap and base tread) to improve processability and improve grip on wet roads while causing no environmental / health concerns.

Allowable Subject Matter

6) **Claims 1, 3-5, 7-9 and 11 are allowed.**

The 132 declaration by Mamiya filed 10-9-09 and the 132 declaration filed 12-17-08 by Mamiya have been considered and are persuasive as to non-obviousness of claims 1, 3-5, 7-9 and 11. With respect to the 132 declaration by Mamiya filed 12-17-08, the results for examples 2 and 3 are unexpected over the prior art; especially Europe 561 (EP 1,179,561), which discloses the partial ester compound and Shiina (US 2002/0049294), which discloses the hydrazide compound. The heat build up property

(105) for example 2 (ester + hydrazide) is greater than the heat build up property (100) for comparative example B (ester, but no hydrazide) and the heat build up property (100) for comparative example C (hydrazide, but no ester). The heat build up property (110) for example 3 (ester + hydrazide) is greater than the heat build up property (102) for comparative example D (ester, but no hydrazide) and the heat build up property (105) for comparative example E (hydrazide, but no ester). These results are unexpected. It is noted that Examples 2 and 3 in the 132 declaration filed 12-17-08, which use 10 parts silica and 40 parts carbon black, are the same as examples 2 and 3 in the specification. The 132 declaration by Mamiya filed 10-9-09 shows that the unexpected results of heat build up property for using silica, ester compound and hydrazide compound are also obtained when the filler contains 50 parts silica and zero parts carbon black. Thus, the unexpected results revealed by the 132 declarations by Mamiya filed 12-17-08 and 10-9-09 are commensurate in scope with claim 1 as amended in the response filed 10-9-09.

Remarks

7) With respect to claims 10, 12, 13 and 15, applicant's arguments filed 10-9-09 have been fully considered but they are not persuasive.

With respect to claims 10, 12, 13 and 15, the 132 declarations by Nakamura filed 12-17-08 and 10-9-09 have been considered but are not persuasive of nonobviousness.

With respect to claim 10, applicant's arguments regarding unexpected results are not commensurate in scope with the claims and are therefore not persuasive. With respect to the 132 declaration filed 12-17-08, the results are for compositions containing

45 parts carbon black, 45 parts silica and 10 parts aluminum hydroxide. With respect to the 132 declaration filed 10-9-09, the results are for compositions containing zero parts carbon black, 60 parts silica and 10 parts aluminum hydroxide. Claim 10 fails to require any specific amount of filler and is, therefore, not commensurate in scope with the results in the 132 declarations filed 12-17-08 and 10-9-09. This is significant because amount and type of filler is known to affect wet grip and reinforcement as evidenced by Japan 748 (paragraph 15). Claim 10 also fails to require aluminum hydroxide and is, therefore, not commensurate in scope with the results in the 132 declarations filed 12-17-08 and 10-9-09. Moreover, the results in Nakamura's 132 declaration appear to be the predicted and expected results in view of Japan 748's teaching to improve grip of a tire on wet road by using petroleum resin an/or Hayashi's teaching to improve cut resistance of a tire tread by using petroleum resin.

With respect to applicant's description of the interview dated 9-1-09 on page 5 of the response filed 10-9-09, examiner comments "INTERVIEW RECORD OK".

8) Applicant's amendment necessitated the new ground(s) of rejection (i.e. the 112 second paragraph rejection) presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
January 3, 2010